



# Plant Sciences UPDATE

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### PLANT SCIENCES STAFF DIRECTORY



The mission of CSREES is to advance knowledge for agriculture, the environment, human health and well-being, and communities.

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## LEAD STORIES

### USDA Expands National Soybean Rust Risk Management Tool

On October 27, 2005, Agriculture Secretary Mike Johanns announced that USDA is again funding projects to track the spread of soybean rust and create the Pest Information Platform for Extension and Education to provide producers with information about additional legume pests and diseases. The nationally coordinated network will help producers in making crop management decisions that reduce pesticide input costs, reduce environmental exposure to pesticides and increase the efficiency and efficacy of pesticide applications.

The risk management tool component of the network is an online, real-time data system that allows growers and their advisors to access the latest information, to the county level, of where there are confirmed disease and/or pest outbreaks. The mapping tool will include frequently updated commentaries from state extension specialists and national specialists discussing immediate and projected risks and control options. USDA's Risk Management Agency (RMA) funded this \$2.4 million component.

To compliment the network, USDA will continue to conduct teleconferences, workshops and organize extension field visits to prepare first detectors to scout for pest and disease problems, to obtain diagnostic confirmation when a suspected problem is found and to manage the information for timely incorporation into the risk management map. Training modules will

also be produced for crop advisors and producers about how to use the map system and what the risk management alternatives are, based on a three-tiered (low, medium, high) risk advisory.

The risk management mapping tool will continue to help improve crop protection by educating farmers about risk-management strategies and providing timely information about good farming practices specific to current crop pest and disease risk status. Farmers will have the information needed so they spray only when the risk is imminent, and reduce the overall number of sprays or other pest control interventions. This tool will increase farmers' awareness of more precise management practices and will provide documentation for potential crop insurance claims. Information will be provided to assist certified organic farmers in making decisions about planting schedules and geographic risk for disease and pest outbreak.

The soybean rust risk management tool is available online at [www.sbrusa.net](http://www.sbrusa.net). CSREES, RMA, and Animal Plant Health Inspection Service (APHIS) are working together to implement the system. CSREES is implementing its part of the system through its land-grant university partners, the Cooperative Extension System, the Regional Integrated Pest Management Centers, and the National Plant Diagnostic Network. The CSREES contact is Bill Hoffman he can be contacted at [whoffman@csrees.usda.gov](mailto:whoffman@csrees.usda.gov).

## FUNDING IMPACTS AND OPPORTUNITIES

### Applying for Grants at GRANTS.GOV

Grants.gov is the site to find and apply for more than \$360 billion in competitive Federal grants across all 26 Federal Grant making agencies. Currently there are more than 2,050 active grant opportunities posted on the site spanning 20+ diverse grant categories ranging from Agriculture to Technology. Over 70 active electronic grant application packages are available on Grants.gov to apply today from Federal agencies, including the Departments of Agriculture, Commerce, Education, and Health and Human Services, the Environmental Protection Agency, the Social Security Administration, and the National Endowments for the Arts and Humanities. Through Grants.gov, the grant community has online access to grant application packages to find and meet the nation's most essential public needs, including an Education grant to reduce alcohol abuse, a Health and Human Services state planning grant, and a USDA scientific cooperation research program.

Grants.gov also provides the ability to download a grant application package and then view and complete it offline giving you the flexibility to complete grant applications when and where you want. It also enables you to easily route it through your organization for review, to complete various components, just like any other email attachment. When the application is complete and ready for submission, you can connect to the Internet and simply click the submit button.

#### Grants.gov resources on the web

- Grants.gov checklists for Organizations, Individuals, Institutions, etc. – [www.grants.gov/RegistrationChecklist](http://www.grants.gov/RegistrationChecklist)
- Other useful links, including foundation resources, funding resources, grants management resources, and more: [www.grants.gov/RelatedLinks](http://www.grants.gov/RelatedLinks)

## IMPACTS

### Research and Extension Activities in the Pacific and Caribbean Basins

For the past three years isolates of *Corynespora cassiicola* have been isolated from various hosts in Guam as part of a CSREES Pacific T-STAR grant: The Impact of Invasive Weeds on the Occurrence of the Target Leaf Spot Pathogen. As a result of this study, dozens of new hosts have been identified. A second phase of *Corynespora* research began in October of 2005 with funding being provided by a second T-STAR grant: Characterization of the Species *Corynespora cassiicola* and its Impact on Quarantine Regulations. The current project is a collaborative effort between the University of Guam and the University of Florida.

Over the next three years isolates of *Corynespora cassiicola* collected from American Samoa, Guam, Hawaii, Palau, Saipan, and Yap in the Pacific basin and from Florida, Virgin Islands, and Puerto Rico in the Caribbean Basin will be thoroughly characterized based on genetic data, host range, and morphology. The plant pathogenic fungus, *Corynespora cassiicola* has been reported on at least 145 genera in 53 plant families and in at least 15 different tropical or subtropical countries. Crops that suffer the greatest yield loss due to the fungus include cowpea, cucumber, papaya, pepper, rubber, soybean and tomato. In Florida, tomato losses caused by *C. cassiicola* are over \$3,000/acre.

As a final objective, isolates from around the world are being solicited for comparison to Pacific and Caribbean isolates. Isolates will be examined according to sequence data, pathogenicity on 6 index hosts, morphology, and location. This information will be used to elucidate the occurrence of various subspecies groupings. This research will not only provide a better understanding of the diversity within the species, but will enable virulent races of *C. cassiicola* to be tracked within the region and provide a means to evaluate isolates for quarantine, plant breeding, and bioherbicide considerations. If you are interested in taking part in this study, we need more isolates; please send an email to Linley Smith at [linley@ufl.edu](mailto:linley@ufl.edu) at the University of Florida or Robert Schlub [rlschlub@uog9.uog.edu](mailto:rlschlub@uog9.uog.edu) at the Cooperative Extension Service, University of Guam.

### BRAG/NRI Grantees Publish in National Academy Proceedings

Researchers Bruce E. Tabashnik, Timothy J. Dennehy and Yves Carrière of the Department of Entomology, University of Arizona, published a paper entitled "Delayed resistance to transgenic cotton in pink bollworm" in the October 25, 2005 issue of *Proceedings of the National Academy of Sciences* ([www.pnas.org/cgi/doi/10.1073/pnas.0507857102](http://www.pnas.org/cgi/doi/10.1073/pnas.0507857102)). The researchers attribute the lack of an increase in observed resistance to Bt toxin in pink bollworm over an 8 year period to the use of refuges of cotton without Bt toxin, recessive inheritance, incomplete resistance, and fitness costs. The work was supported by CSREES' National Research Initiative's Entomology and Nematology program and CSREES' Biotechnology Risk Assessment Research Grants program. For more information contact Bruce Tabashnik at [brucet@ag.arizona.edu](mailto:brucet@ag.arizona.edu).

## Improving Taro Genetic Diversity In American Samoa



Taro (*Colocasia esculenta*) is a staple crop throughout the tropics and part of traditional culture on many Pacific Islands. In 1993 taro leaf blight disease, caused by *Phytophthora colocasiae*, swept the Samoan Archipelago. The growing taro industry of Independent Samoa, valued at \$3.5 million that year, declined to \$60,000 in 1994. Production in the U.S. Territory of American Samoa fell from 357,000 kg to less than 5,000 kg during the same period. The severity of this epidemic was mainly due to extensive plantings of the same susceptible taro cultivar.

From 1994-1996 a USDA program, Agricultural Development in the American Pacific (ADAP), financed the collection, evaluation, and distribution of leaf blight resistant taro to American Samoa. Taro production quickly recovered, but almost 10 years later the number of different varieties remains small.

In an attempt to increase the genetic diversity of taro in American Samoa, a CSREES-funded project is importing tissue culture plantlets from breeding programs throughout Southeast Asia and Oceania. These hybrids are made available through the Regional Germplasm Centre in Suva, Fiji, in an effort to improve genetic resistance and stabilize taro production in the area.

After multiplying the taro in American Samoa Community College Land Grant Program's plant tissue culture laboratory, it is grown to planting size in the greenhouse. The new hybrids then enter a farmer participatory evaluation program modeled after the successful Taro Improvement Project in Samoa. The goal is to give farmers and their families a voice in which new hybrids are selected for local introduction.

**For more information:** Fred Brooks, Plant Pathologist, ASCC Land Grant Program (684) 699-1575 or [f.brooks@ascc.as](mailto:f.brooks@ascc.as)



## Gene in Corn Plays Important Role to Future Crops



Dr. Robert Martienssen from Cold Spring Harbor Laboratory along with colleagues from Iowa State and ARS identified a gene in corn that gives the tassel and ear its typical shape. A single change to the gene results in a bushy stalk and ears with misshapened, crooked rows of kernels. This interesting-looking corn plant was first described in the early 1900s and was originally thought to be a different species of corn. The research suggests that this gene plays an important role in the domestication of corn, resulting in the modern-day appearance of corn with straight rows of kernels on the ears. The gene also may be useful as a tool to improve yield in other cereal crops.

This research was partially funded through the CSREES NRI Developmental Processes of Agricultural Plants Program. Articles about this study have appeared at Ascribe.com (The Public Interest Newswire), Newsday.com, RedNova.com, I-Newswire.com, SeedQuest.com, and the San Francisco Chronicle ([sfgate.com](http://sfgate.com)). The latest feature appeared as the cover story in the August 25, 2005 issue of the journal Nature, which describes research on the arrangement and length of flower-bearing branches in corn and related grasses.

**For more information:** Dr. Robert Martienssen at [martiens@cschl.edu](mailto:martiens@cschl.edu).

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## OPPORTUNITIES

### Plant Genetic Mechanisms Program

CSREES requests applications for the National Research Initiative: Plant Genetic Mechanisms Program. In FY 2006, CSREES anticipates that approximately \$4,200,000 will be available for support of this program. Completed applications must be received by close of business on **December 1, 2005**.

**For more information:** Liang-Shiou Lin at [LLIN@csrees.usda.gov](mailto:LLIN@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantgeneticmechanismsnri.html](http://www.csrees.usda.gov/fo/plantgeneticmechanismsnri.html)



### Integrated Pest Management Program - South

CSREES requests applications for the Regional Integrated Pest Management Program - Southern Region. In FY 2006, CSREES anticipates that approximately \$1,030,000 will be available for support of this program. Completed applications must be received by close of business on **December 7, 2005**.

**For more information:** Mike Fitzner at [mfitzner@csrees.usda.gov](mailto:mfitzner@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/integratedpestmgtsouth.html](http://www.csrees.usda.gov/fo/integratedpestmgtsouth.html)

### Agricultural Prosperity for Small and Medium-Sized Farms

CSREES requests applications for the National Research Initiative: Agricultural Prosperity for Small and Medium-Sized Farms Program. In FY 2006, CSREES anticipates that approximately \$5,000,000 will be available for support of this program. Completed applications must be received by close of business on **December 8, 2005**.

**For more information:** Siva Sureshwaran at [ssureshwaran@csrees.usda.gov](mailto:ssureshwaran@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/smallfarmsruralcommunitiesnri.html](http://www.csrees.usda.gov/fo/smallfarmsruralcommunitiesnri.html)

### Potato Research

CSREES requests applications for the Special Research Grants Program: Potato Research. In FY 2006, CSREES anticipates that approximately \$1,315,800 will be available for support of this program. Completed applications must be received by close of business on **December 12, 2005**.

**For more information:** Ann Marie Thro at [athro@csrees.usda.gov](mailto:athro@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/potatoresearchsrgp.html](http://www.csrees.usda.gov/fo/potatoresearchsrgp.html)

### Integrated Pest Management Program - West

CSREES requests applications for the Regional Integrated Pest Management Program - Western Region. In FY 2006, CSREES anticipates that approximately \$655,000 will be available for support of this program. Completed applications must be received by close of business on **December 15, 2005**.

**For more information:** Mike Fitzner at [mfitzner@csrees.usda.gov](mailto:mfitzner@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/integratedpestmgtwest.html](http://www.csrees.usda.gov/fo/integratedpestmgtwest.html)

### Plant Microbe Associations

CSREES requests applications for the National Research Initiative: Plant Microbe Associations Program. In FY 2006, CSREES anticipates that approximately \$5,400,000 will be available for support of this program. Completed applications must be received by close of business on **December 16, 2005**.

**For more information:** Ann Lichens-Park at [apark@csrees.usda.gov](mailto:apark@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantmicrobeassociationsnri.html](http://www.csrees.usda.gov/fo/plantmicrobeassociationsnri.html)

### IPM Partnership Grants for the Northeast

The Northeastern Integrated Pest Management (IPM) Center is pleased to announce the availability of funding through its IPM Partnership Grants Program for 2006. Approximately \$465,000 is available to support projects that will address or develop regional IPM priorities and will further the mission of the Northeastern IPM Center. The original and fourteen (14) copies of each proposal must be received by the Northeastern IPM Center by 5:00 p.m. on Friday, **December 16, 2005**. See the complete RFA for full submission instructions. If you have questions or need paper copies of the RFA, please contact grants manager John Ayers, Co-director of the Northeastern IPM Center, Pennsylvania State University. Phone 814-865-7776; fax: 814-863-8175; email [jea@psu.edu](mailto:jea@psu.edu).

**Web access:** [http://northeastipm.org/about\\_fund.cfm](http://northeastipm.org/about_fund.cfm)

### Integrated Organic Program

CSREES requests applications for the Integrated Organic Program. In FY 2006, CSREES anticipates that approximately \$4,700,000 will be available for support of this program. Completed applications must be received by close of business on **December 20, 2005**.

**For more information:** Tom Bewick at [tbewick@csrees.usda.gov](mailto:tbewick@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/integratedorganicprogramicgp.html](http://www.csrees.usda.gov/fo/integratedorganicprogramicgp.html)

### Plant Environmental Adaptation

CSREES requests applications for the Plant Environmental Adaptation Program. In FY 2006, CSREES anticipates that approximately \$3,500,000 will be available for support of this program. Completed applications must be received by close of business on **January 10, 2006**.

**For more information:** Gail McLean at [gmclean@csrees.usda.gov](mailto:gmclean@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantenvironmentaladaptationnri.html](http://www.csrees.usda.gov/fo/plantenvironmentaladaptationnri.html)

### Plant Developmental Processes

CSREES requests applications for the National Research Initiative: Plant Developmental Processes Program. In FY 2006, CSREES anticipates that approximately \$4,200,000 will be available for support of this program. Completed applications must be received by close of business on **February 7, 2006**.

**For more information:** Liang-Shiou Lin at [LLIN@csrees.usda.gov](mailto:LLIN@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantdevelopmentalprocessesnri.html](http://www.csrees.usda.gov/fo/plantdevelopmentalprocessesnri.html)

### Plant Biochemistry

CSREES requests applications for the Plant Biochemistry. In FY 2006, CSREES anticipates that approximately \$4,200,000 will be available for support of this program. Completed applications must be received by close of business on **February 7, 2006**.

**For more information:** Gail McLean at [gmclean@csrees.usda.gov](mailto:gmclean@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantbiochemistrynri.html](http://www.csrees.usda.gov/fo/plantbiochemistrynri.html)

### Plant Genome, Bioinformatics, Genetic Resources

CSREES requests applications for the Plant Genome, Bioinformatics, Genetic Resources Program. In FY 2006, CSREES anticipates that approximately \$13,500,000 will be available for support of this program. Completed applications must be received by close of business on **February 15, 2006**.

**For more information:** Ed Kaleikau at [ekaleikau@csrees.usda.gov](mailto:ekaleikau@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantgenomebioinformaticsgeneticresourcesnri.html](http://www.csrees.usda.gov/fo/plantgenomebioinformaticsgeneticresourcesnri.html)

### Weedy Invasive Species

CSREES requests applications for the Weedy Invasive Species Program. In FY 2006, CSREES anticipates that approximately \$3,600,000 will be available for support of this program. Completed applications must be received by close of business on **February 15, 2006**.

**For more information:** Michael A. Bowers at [mbowers@csrees.usda.gov](mailto:mbowers@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantsweedyinvasivenri.html](http://www.csrees.usda.gov/fo/plantsweedyinvasivenri.html)

### Plant Biosecurity

CSREES requests applications for the Plant Biosecurity Program. In FY 2006, CSREES anticipates that approximately \$4,000,000 will be available for support of this program. Completed applications must be received by close of business on **June 15, 2006**.

**For more information:** Liang-Shiou Lin at [LLIN@csrees.usda.gov](mailto:LLIN@csrees.usda.gov)

**Web access:** [www.csrees.usda.gov/fo/plantbiosecuritynri.html](http://www.csrees.usda.gov/fo/plantbiosecuritynri.html)

### Liang-Shiou Lin and John Sherwood to Oversee the NRI Plant Biosecurity Program

On October 1, 2005 (FY 2006), Liang-Shiou Lin and John Sherwood of the Competitive Programs unit assumed the program leadership for the NRI Plant Biosecurity Program (program code 20.2), for which the RFA was recently released ([www.csrees.usda.gov/fo/plantbiosecuritynri.html](http://www.csrees.usda.gov/fo/plantbiosecuritynri.html)). This program was previously managed by Kitty Cardwell of Plant and Animal Systems and Ed Kaleikau of Competitive Programs. Liang-Shiou Lin currently has responsibilities for two other NRI programs (program 52.2 Genetic Processes and Mechanisms of Agricultural Plants, and program 53.0 Developmental Processes of Agricultural Plants). John Sherwood is a half-time IPA from the University of Georgia where he is the head of the Plant Pathology Department. He also represents the CSREES on the interagency Microbial Observatory Program (a joint effort between CSREES and the National Science Foundation). Liang-Shiou Lin can be reached at [LLIN@csrees.usda.gov](mailto:LLIN@csrees.usda.gov) and John Sherwood at [jsherwood@csrees.usda.gov](mailto:jsherwood@csrees.usda.gov).

## CSREES PROGRAM HIGHLIGHTS

### Southern Region Small Fruit Consortium

The Southern Region Small Fruit Consortium (SRSFC) is a collaborative effort among five southern land grant universities. The consortium was established through a memorandum of understanding first negotiated in 1999. The objective of the consortium is to pool the resources and expertise in small fruits among the member states to better serve the horticulture county agents and the small fruit industry in the southern U.S. The member states Virginia Tech, NC State University, Clemson University, University of Georgia and the University of Tennessee, support the consortium through annual dues of \$35,000 from Hatch and Smith Lever funds designated for regional collaboration.

The SRSFC conducts two agent trainings on small fruit production per year; awards research and extension grants annually; supports a web site [www.smallfruits.org](http://www.smallfruits.org); and sponsors small fruit grower meetings. The SRSFC has awarded over \$300,000 in research and extension grants from 2001-2005. Ten agent training sessions have been sponsored from 1999 to 2005 involving a total of 233 agents. The consortium is governed by a steering committee consisting of two faculty with small fruit responsibilities and one administrator from each institution; one industry representative from each of the member states; and the Executive Director of the Southern Association of Agriculture Experiment Directors.

The steering committee is responsible for approving the annual budget; reviews and ranks grant proposals; assists with agent training workshops; contributes to the SRSFC web site and attends the annual meeting of the SRSFC steering committee which is held in conjunction with the Southern Region of the American Society for Horticultural Science annual meeting. Dr. Tom Bewick is the CSREES representative to the SRSFC steering committee and has attended their annual meetings.

The SRSFC would like to expand its membership to other southern states. States interested in exploring the possibility of joining the consortium should contact Tom Monaco at [tom\\_Monaco@ncsu.edu](mailto:tom_Monaco@ncsu.edu) for additional information. A power point presentation on the history and accomplishments of the SRSFC can be found at [www.smallfruits.org/SRSFCactivities/presentations/SRSFC\\_presentation04.pdf](http://www.smallfruits.org/SRSFCactivities/presentations/SRSFC_presentation04.pdf)

### EPA Awards Department of Defense for Innovative IPM Practices

The Environmental Protection Agency (EPA) recently recognized the Department of Defense (DoD), Pest Management Program with a 4th Pesticide Environmental Stewardship Program (PESP) Champion Award. EPA presented the award to the Armed Forces Pest Management Board (AFPMB), Office of the Secretary of Defense with this award in recognition of the innovative IPM activities and accomplishments of the AFPMB and the military pest management programs of the U.S. Army, U.S. Navy, and U.S. Air Force.

IPM Technical Assistance from CSREES and Land Grant Universities that has supported the U.S. Army's installation pest management program was cited by EPA in the announcement of this PESP Award to DoD. Through an Interagency Agreement started in 2000 between the U.S. Army Environmental Center (USAEC), Aberdeen Proving Ground, MD, the CSREES Plant Sciences Section has assisted U.S. Army installations with current IPM technology and best management practices relevant to military installations IPM programs. Dr. Herb Bolton, National Program Leader, Army Environmental Programs provides IPM and related environmental technical support to Army installations on recommendations for Army installation pest management plans, current IPM

information from research at Land Grant Universities and demonstration projects conducted with in cooperation with Land Grant partners on U.S. Army installations.

The participation of Land Grant Universities in this partnership has been critical to its success. As examples, Clemson University provided leadership for a demonstration project at Fort Jackson, SC on the integrated control of imported red fire ants and presented a workshop for Army and DoD installation pest management personnel on new technologies for fire ant control. Cornell University assisted Army installations with biological control agents for invasive species and conducted two workshops for the Army on procedures for the release and monitoring of biological control agents. The University of California, Davis, conducted a demonstration project at Fort Hunter Liggett, CA on the integrated control of yellow starthistle on Army training ranges. Speakers from the University of Florida, University of Georgia, and University of Maryland have presented pest management research data and extension recommendations at Army training sessions and DoD pest management workshops.

**For more information:** Herb Bolton at (202) 401-4201 or [hbolton@csrees.usda.gov](mailto:hbolton@csrees.usda.gov)

## Invasive Weevils Spread to Southern California

Entomologist Beth Grafton-Cardwell knew it was just a matter of time before the *Diaprepes* root weevil, a serious foe of citrus and nursery crops, showed up in California. Grafton-Cardwell's instincts were excellent because the destructive weevils that feed on more than 270 plant species were recently found in southern California. Until then, the pest was found only in Florida and Texas. It is native to the Caribbean region and was first found in Florida in 1964. Today, more than 30,000 acres of citrus in 23 counties in Florida are infested.

In September 2005, the root weevil was discovered in an urban area of Newport Beach, and a month later the pest surfaced 18 miles away in Long Beach. The weevil has been intercepted and destroyed numerous times in California in shipments of plants, truck trailers, and cargo holds of aircraft. The California Department of Food and Agriculture (CDFA) is surveying these infestations in Los Angeles and Orange counties and developing an eradication plan. An emergency eradication response is necessary now to ensure the root weevil does not continue to multiply and spread to other areas of the state.

With three-year funding from the Exotic/Invasive Pests and Diseases Research Program (EPDRP), Grafton-Cardwell, a researcher from University of California, Riverside, traveled to Florida in 2001 to work with researchers to find ways to prevent the spread of this insect to citrus groves and other crops in California. "It's imperative that we prevent this pest from migrating from urban areas into agricultural areas because the result could be devastating to California crops," says Grafton-Cardwell.

The root weevil larvae plunge underground and feed on the roots of the plant. They will often encircle the taproot, impeding the ability of the plant to take up water and nutrients, killing the plant. This type of injury also provides an avenue for root rot infections. A single larva can kill young plants while several larvae can cause serious decline of older, established plants. Because larvae are below ground, it is difficult to detect them before decline of above ground portions of the host is observed.

In the Florida studies, researchers used a special trap called a "Teddars trap" to collect adult weevils. This trap acts like a tree trunk, and the emerging beetle climbs up

it and is caught in a container at the top. Researchers also applied a strain of a fungus to the surface of the Tedders trap to kill adult weevils. This way, the trap monitors the pest and also distributes the fungus into the weevil population to control it biologically.

In the Florida project, researchers also traveled to the Caribbean to collect tiny, stingless wasps (parasites) that attack the weevil's eggs. Researchers released two parasites in groves and ornamentals that were infested with the pest in 10 counties in southern and central

Florida in 1999 and 2001, respectively.

Currently, the parasite, *Aprostocetus vaquitarum*, seems to have established well, however, it is sensitive to some insecticides.

Establishment and recovery of the wasps appears to be more successful in pristine habitats like ornamental plant nurseries than in citrus groves. It is likely that the pesticides that are applied to citrus for other pests are hindering the parasites.

New species of parasites that attack the weevil eggs were collected from islands in the Caribbean during 2002. These new species appear to be promising when tested under quarantine conditions, and permission from federal agencies to release these species in the field is pending. Studies in Florida of natural enemies such as the fungi and parasites will help with California efforts to manage this pest. Although a strong flyer, *Diaprepes* root weevils generally only fly up to 300 yards to find food. The real threat of long distance spread of this pest could come from humans moving infested plants or soil.

Grafton-Cardwell is working with other agencies to educate citrus growers, nursery workers and others. Through funding from the EPDRP of the University of California Statewide Integrated Pest Management Program and Center for Invasive Species Research, a team of researchers from the CDFA, the University of California, and the University of Florida developed a brochure describing the biology of this pest and the management program used in Florida.

The booklet (*Diaprepes Root Weevil*, ANR Publication 8131), is available for free online at <http://anrcatalog.ucdavis.edu/pdf/8131>, and a Web site, (<http://citrusent.uckac.edu/Diaprepeshomepage.htm>) features the pest in relationship to citrus.





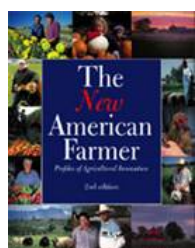
## CSREES Sponsored Stakeholder Workshop with ASHS

CSREES sponsored a stakeholder workshop with the American Society of Horticultural Sciences (ASHS) at the society's annual meeting in Las Vegas on July 17, 2005. This workshop was supported by the Competitive Programs unit of CSREES. A planning meeting was held in 2004 in conjunction with the ASHS annual meeting in Austin, TX. The goal of the workshop was to gather input from ASHS Working Groups and other ASHS participants on needs and potential areas of horticultural research to be considered by CSREES in future funding opportunities. Michael Haverkamp of the University of

Nevada Cooperative Extension served as the facilitator of the workshop. Several CSREES National Program Leaders participated and made presentations at the workshop, including Tom Bewick and Ann Marie Thro of the Plant and Animal Systems unit and Liang-Shiou Lin of Competitive Programs. A report of the workshop is being prepared by Mary Peet of North Carolina State University.

**For more information about the workshop:** Liang-Shiou Lin, [LLIN@csrees.usda.gov](mailto:LLIN@csrees.usda.gov) or Mary Peet, [mpeet@ncsu.edu](mailto:mpeet@ncsu.edu)

## Crop Farmers Share Secrets of Success



Despite a difficult agricultural climate, a growing number of crop producers are not just increasing profits, they are addressing environmental and social concerns through new production and marketing opportunities. A Minnesota farmer facing stagnant commodity prices switched to organic soybeans, flax and other small grains and now enjoys price premiums. A corn, bean and wheat grower in Illinois battling compacted soils incorporated no-till and cover crops and enjoys both better yields and drought resilience. And a Pennsylvania grower devised a unique rotation heavy on ground covers and no-till to slow erosion, improve soil quality and knock back pests in his corn, soybeans and vegetables.

These examples and more populate *The New American Farmer, 2<sup>nd</sup> edition*, a new book of farm profiles by the Sustainable Agriculture Network (SAN), the national outreach arm of CSREES' Sustainable Agriculture Research and Education (SARE) program. The book features profiles of innovative producers, many of whom received grants from SARE. With their own brand of stewardship, farming savvy and entrepreneurship, the profiled farmers are improving the lives of their families and the quality of their communities.

**Web access:** <http://www.sare.org/publications/haf.htm>

## Exotic/Invasive Pests and Diseases Research Program (EPDRP)

The University of California, Agriculture and Natural Resources Division recently held its fall workshop on the Exotic/Invasive Pests and Diseases Research Program at the University of California, Davis. The workshop included 30 presentations and 32 poster presentations on research projects that are obtaining an understanding of the basic and applied biology of exotic/invasive pests and diseases that presently impact California or are likely to do so in the future. Projects funded under this program cover a wide range of taxa including invasive insects, weeds, pathogens, and vertebrates.

The University of California Riverside Center for Invasive Species Research and the UC Statewide IPM Program fund the EPDRP with a special grant from the USDA, Cooperative State Research Education and Extension Service. Each year, the EPDRP solicits new proposals for developing and promoting basic and applied research programs linked to extension, that address exotic pests and diseases found in agriculture, urban, and natural environments in California. This year's request for new proposals will be posted on the EPDRP website and will have an April 2006 deadline.

The Exotic/Invasive Pests and Diseases Research Program solicits proposals from scientists affiliated with public research institutions, both within and outside of California. Funding is not restricted to University of California investigators, although projects are strongly encouraged to include at least one UC Division of Agriculture and Natural Resources academic employee as an investigator, to ensure relevance to exotic pests and diseases/invasive species of particular importance to California, and linkage to the Agriculture Experiment Station and Cooperative Extension system. Investigators participating in the EPDRP are from the states of AL, CA, FL, ND, and NM and TX.

**For more information on:** Dr. Rick Roush, Director, UC Statewide IPM Program at [troush@ucdavis.edu](mailto:troush@ucdavis.edu); (530) 752-8350 or Dr. Herb Bolton, National Program Leader, at CSREES at [hbolton@csrees.usda.gov](mailto:hbolton@csrees.usda.gov); (202) 401-4201.

**Web access:** EPDRP website at <http://www.ipm.ucdavis.edu/EXOTIC/>

## UPCOMING AND RECENT MEETINGS

2005

November

- Independent Plant Breeder's Conference, Fort Lauderdale, FL, November 18-20, 2005. <http://conference.ifas.ufl.edu/IPBC>
- 3<sup>rd</sup> International Conference on IPM Role in Integrated Crop Management and Impacts on Environment and Agricultural Products, Giza, Egypt, November 26-29, 2005. [www.arabscientist.org/dl/announcement.pdf](http://www.arabscientist.org/dl/announcement.pdf)

2006

- Southern Region American Society for Horticultural Science. Mobile, AL, **February** 3-7, 2006. [www.ashs.org](http://www.ashs.org)
- Fifth National IPM Symposium "Delivering on a Promise", St. Louis, MO, **April** 4-6, 2006. [www.ipmcenters.org/IPMSymposiumV/](http://www.ipmcenters.org/IPMSymposiumV/)
- 6<sup>th</sup> International Carnivorous Plant Society Conference, Frostburg, MD, **June** 1 - 5, 2006. [www.frostburg.edu/6thICPS/index.htm](http://www.frostburg.edu/6thICPS/index.htm)
- 8<sup>th</sup> Annual Plant Sciences Institute Symposia: Plant Receptor Signaling, Ames, Iowa, **June** 22-25, 2006. [www.plantsciences.iastate.edu/symposia/](http://www.plantsciences.iastate.edu/symposia/)
- OFA - Association of Floriculture Professionals 2005 Short Course & Trade Show, Columbus, OH, **July** 8-12, 2006. [www.ofa.org](http://www.ofa.org)
- 90<sup>th</sup> Annual Meeting of the Potato Association of America and VI International Solanaceae Congress, Madison, WI, **July** 23 - 27, 2006. [www.hort.wisc.edu/PAA-Solanaceae/](http://www.hort.wisc.edu/PAA-Solanaceae/)
- ASHS Annual Conference, New Orleans, LA, **July** 27-30, 2006. [www.ashs.org/conferences.html](http://www.ashs.org/conferences.html)
- American Society of Plant Biologists, Plant Biology 2006 Conference, Boston, MA, **August** 5-9, 2006. [www.aspb.org/meetings/pb-2006/pb06flyer.pdf](http://www.aspb.org/meetings/pb-2006/pb06flyer.pdf)
- 27<sup>th</sup> International Horticultural Congress. Seoul, South Korea, **August** 13-19, 2006. [www.ihc2006.org](http://www.ihc2006.org)

## INSIDE THE BELTWAY

### Senate Approved Conference Action on the FY 2006 Agriculture Appropriation

Both the House and Senate have approved conference action on the FY 2006 Agriculture appropriation and it is anticipated the President will sign the Agriculture appropriation. CSREES bill language is on page 6, General Provisions begin on page 30, and CSREES report language begins on page 62. The conference report is available on the Library of Congress web site at:

[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109\\_cong\\_reports&docid=f:hr255.109.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_reports&docid=f:hr255.109.pdf).

Senate action for funding for: Research and Education Activities: the Hatch Act, McIntire-Stennis, Animal Health and Smith-Lever 3(b) and(c) formula programs is \$243,446. Special Grants 125,439. NRI 190,000. Integrated Activities 55,784. Extension Activities 453,438. Total CSREES 1,181,849.

CSREES Budget Information: [www.csrees.usda.gov/about/offices/budget.html](http://www.csrees.usda.gov/about/offices/budget.html)

FY 2006 President's Budget Proposal: [www.csrees.usda.gov/about/offices/budget/2006\\_budget\\_table.pdf](http://www.csrees.usda.gov/about/offices/budget/2006_budget_table.pdf)

Information on the USDA FY 2006 Budget: [www.usda.gov](http://www.usda.gov), then clicking on About USDA, and then clicking on budget information.

## RESOURCES

### Resistant Pest Management Newsletter

The Resistant Pest Management (RPM) Newsletter serves to inform the resistance workers worldwide of the ongoing changes and advances in the field of resistance management. We hope to provide an accurate, informative, and useful resource to our readers while enhancing the communication of ideas among colleagues worldwide. The RPM Newsletter can be found at <http://whalonlab.msu.edu/rpmnews/>.

### Arthropods Resistant to Pesticides Database

The Database of Arthropods Resistant to Pesticides reports of resistance cases from 1914 to the present, when the resistance is first discovered for a specific time and place. Pesticide resistance is a dynamic, evolutionary phenomena and a record in this database may or may not be indicative of your area. Similarly, the absence of a record in this database does not indicate absence of resistance. This database was made possible by grants from the CSREES Pest Management Alternatives Program, the Insecticide Resistance Action Committee (IRAC), and GREEN (Generating Research and Extension to meet Economic and Environmental Needs) Project # GR02-69, Michigan Agricultural Experiment Station (MAES), Michigan State University Extension (MSUE) and the Michigan Department of Agriculture (MDA).

**Web access to database:** [www.pesticideresistance.org/DB/index.html](http://www.pesticideresistance.org/DB/index.html)

### The Plant Management Network Now Available to USDA Employees

The Plant Management Network's suite of online journals and resources has been recently added to the U. S. National Agricultural Library's (NAL) electronic serials collection. All Plant Management Network (PMN) agricultural journals, publications, and other resources are now accessible to all employees of the USDA through their computer IP address or NAL's Digital Desktop Library, DigiTop. To receive monthly notification of new articles, USDA employees, as well as anyone else, may sign up for the monthly PMN Update newsletter at no charge on the PMN homepage,

[www.plantmanagementnetwork.org](http://www.plantmanagementnetwork.org).

"As a resource serving many disciplines and agricultural sectors, PMN's content will be important to many of USDA's programmatic areas across its various agencies," said Richard Stuckey, PMN advisory council chair and former EVP of the Council for Agricultural Science and Technology. He added, "PMN is also currently available at 30 U.S. land-grant universities, other academic institutions, partner companies, and libraries in Canada, Europe, and Australia, as well as to individual subscribers worldwide."

PMN publishes four applied science journals: *Applied Turfgrass Science*, *Crop Management*, *Plant Health Progress*, and *Forage and Grazinglands*. It also houses efficacy trial data, including *Fungicide and Nematicide Tests*, *Biological and Cultural Tests for Control of Plant Diseases*, and *Commodity Variety Trials*. *Arthropod Management Tests* will be added soon. Other resources include PMN Image Collections - a database of more than 2,200 plant and agricultural images, the PMN Plant Science Database - including more than 4,000 applied science fact sheets and other documents supplied by PMN Partners, the PMN Education and Training Center, PMN Soybean Rust Information Center, and a monthly newsletter, PMN Update.

The Plant Management Network is the first-stop multidisciplinary Internet source for applied plant and agricultural science information and communication. The network is a not-for-profit collaboration of academic institutions, scientific and professional societies, industry, and governmental agencies, serving stakeholders worldwide.

**Web access:** [www.plantmanagementnetwork.org](http://www.plantmanagementnetwork.org).

### Protecting Children from Pesticides in Schools

A new book that illustrates the national problem of pesticide dependence and cost effective alternatives to traditional approaches to pest control is now available. "A Worm in the Teacher's Apple" was written by Dr. Marc L. Lame, an entomologist with years of experience implementing award winning Integrated Pest Management programs in schools nationwide currently teaches at Indiana University's School of Public and Environmental Affairs. This book highlights the actions of IPM supporters in schools and the regulatory community, the response of the pest control industry, and the non-action of those who are charged with protecting our children from pests and pesticides. The material in this book is primarily intended for those concerned about children and the environment parents, teachers, health care professionals, school officials (and other policy makers), regulators, children's environmental health advocates and pest management professionals. "A Worm in the Teacher's Apple" can be previewed directly at [www.pesticidesnotinschool.com](http://www.pesticidesnotinschool.com)

**For more information:** Marc Lame at [mlame@indiana.edu](mailto:mlame@indiana.edu)



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<b>Express Mail</b> USDA/CSREES/PAS 800 9 <sup>th</sup> Street S.W. Washington, DC 20024		Plant & Animal Systems Unit website: <a href="http://www.csrees.usda.gov/about/offices/pas.html">www.csrees.usda.gov/about/offices/pas.html</a> CSREES website: <a href="http://www.csrees.usda.gov">www.csrees.usda.gov</a>	